

1 RECORD OF ORAL HEARING  
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3 UNITED STATES PATENT AND TRADEMARK OFFICE  
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6 BEFORE THE BOARD OF PATENT APPEALS  
7 AND INTERFERENCES  
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10 Ex parte HAO A. CHEN  
11 And NATHAN W. EASTERDAY  
12

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14 Appeal 2007-1262  
15 Application 10/697,532  
16 Technology Center 1700  
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19 Oral Hearing Held: June 5, 2007  
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23 Before EDWARD C. KIMLIN, BRADLEY R. GARRIS, and  
24 CHUNG K. PAK,  
25 Administrative Patent Judges  
26

27 ON BEHALF OF THE APPELLANT:  
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MAILED

JUN 22 2007

PAT. & T.M. OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

1           The above-entitled matter came on for hearing on Tuesday,  
2   June 5, 2007, commencing at 1:34 p.m., at the U.S. Patent and Trademark  
3   Office, 600 Dulany Street, Alexandria, Virginia, before Deborah Rinaldo,  
4   RPR, Notary Public, CCR No. 0315067.

5  
6           THE CLERK: Calendar number 10, appeal number 2007-1262, Mr.  
7   Bowersox.

8           MR. BOWERSOX: Good afternoon, Your Honors.

9           JUDGE KIMLIN: Good afternoon, Mr. Bowersox. Welcome.  
10   Our proceedings are being transcribed today and the transcription will  
11   become part of the official record and we will review it before it does so.  
12   We have some observers here as well today and I won't introduce them all to  
13   you, but you are being watched.

14           And you can begin when you are ready. You've got  
15   approximately 20 minutes. Take as much as you want.

16           MR. BOWERSOX: Thank you very much.

17           The claimed present invention relates to a surface covering.  
18   And what is important is that it begins with the textured surface that is  
19   thereafter printed with a -- covered with a printed pattern, and thereafter a  
20   protective layer is placed on top. That's what the method requires and the  
21   product similarly has the different layers in that order.

22           The prior art that the examiner has presented against these  
23   claims begins with the primary reference to Hansson, et al. Hansson, et al.,  
24   like a lot of other prior art, conventionally forms a pattern, a printed pattern

1 on a board, a layer, and then it embosses in registration with the printed  
2 pattern.

3 In other words, it takes that printed pattern and it's going to  
4 change it. They have pressing rollers which are used to put texture on outer  
5 coatings, and this sort of arrangement can result in a couple of different  
6 problems.

7 One of them is if the embossing goes deep enough to emboss  
8 the printed layer, it's going to distort that printed layer. Also, if you emboss  
9 on a protective layer, you are compromising that protective layer. You are  
10 making it thinner in some areas.

11 These problems are overcome by the present claimed invention  
12 whereby you begin with a textured surface and then you print in registration  
13 with the embossments on the surface.

14 Now, the claim 1 recites that textured surface clearly from our  
15 specification that is an embossed surface. Dependent claims 5 and 6 relate  
16 to the different depths of the embossment. We've made that point clear --

17 JUDGE GARRIS: Before we go too much further, let me ask  
18 you, with respect to claim 1, where you are defining textured surface and  
19 then on top of it you've got the printed pattern, now, that is in contrast to  
20 how you describe the prior art of Hansson where there first is a printed  
21 pattern applied and then a texture is introduced.

22 MR. BOWERSOX: That's true.  
23  
24

1 JUDGE GARRIS: But in each case the ultimate product  
2 includes a printed pattern that rises up and down, thus peaks and valleys. In  
3 other words, a texture.

4 I'm wondering, how does that ultimate product that you've  
5 defined in claim 1 distinguish from Hansson's ultimate product without  
6 regard to the particular process by which it's made?

7 JUDGE KIMLIN: Excuse me. Judge Garris essentially  
8 restated a question I was just about to ask, because reading the claim, I don't  
9 see where in the claim you really have a limitation that the surface is first  
10 textured and then the printed matter comes thereon.

11 It seems to me that it would encompass just the opposite as well  
12 just as long as you end up with a printed pattern on the textured surface. So  
13 I'm not sure how your argument is commensurate with this claim.

14 MR. BOWERSOX: Well, the claim recites that the printed  
15 pattern located on the surface is in registered -- or in registration with the  
16 textured surface. So you have aimed that print pattern onto the textured  
17 surface so that it would be in registration therewith.

18 JUDGE KIMLIN: But the claim says at least one printed  
19 pattern located on said textured surface. Now, if you printed the pattern on  
20 the surface and then textured it, that same result would ensue. You would  
21 have a printed pattern on a textured surface.

22 MR. BOWERSOX: What our claim also recites is that there is  
23 a protective layer located on the printed pattern and clearly we have these  
24

1 layers in order. Now, what the claim also recites is that we have a base  
2 coating located on the top support layer having a textured surface.

3 So if you emboss after adding the printed pattern, the printed  
4 pattern is going to be distorted, like I said, and would not, in my view, be in  
5 registration with the textured surface.

6 At the edges of the embossment where you are going to have  
7 some curving, for instance, you are going to be distorting that printed  
8 pattern. Whereas, in the claimed invention, the pattern comes on the  
9 textured surface and we can avoid distortion of that printed pattern by  
10 forming it in that manner.

11 And in claim 1 the printed pattern is indicated as being located  
12 on the textured surface and in registration with it.

13 JUDGE GARRIS: Well, you know, there is no language in  
14 claim 1 that specifies the degree of registration that is encompassed by claim  
15 1.

16 MR. BOWERSOX: That's true.

17 JUDGE GARRIS: So it could be a very limited degree of  
18 registration. Perhaps a slight overlap would be adequate for claim 1.

19 JUDGE KIMLIN: Is there anything in the specification which  
20 defines what is meant by "in registry with"?

21 MR. BOWERSOX: Yeah. We describe in the specification  
22 that we have a print-in-register method, and that means that you are aiming  
23 your printer, the printed pattern, to mate with or correspond to the textured  
24

1 surface. Print-in-register is clearly where this application is going. That is  
2 clearly the thought here.

3 In the prior art, they emboss and register. You start with the  
4 core layer, enhance it. You then emboss it. You have to line up your  
5 embossing molds with that design so that you can emboss exactly where the  
6 printed pattern lies.

7 JUDGE KIMLIN: But that's possible to do.

8 MR. BOWERSOX: Yes, it is. And what the result is, is that  
9 you distort the printed pattern and you also compromise a protective layer if  
10 the embossing comes after the protective layer is applied.

11 JUDGE KIMLIN: Is there any evidence of record which  
12 illustrates a comparison between doing the embossing before or after the  
13 printing?

14 MR. BOWERSOX: Well, there's no test results, so to speak.  
15 We do describe the problems with the prior art and the problems of  
16 embossing after printing. And that certainly -- those problems are certainly  
17 overcome by the present invention where the embossing comes before you  
18 print onto a textured surface.

19 JUDGE KIMLIN: But this is all a narrative form?

20 MR. BOWERSOX: Yes. We do say a printed pattern located  
21 on said textured surface and then registered with the textured surface.

22 So our reading of that is that you begin with the textured  
23 surface and then you print on it. The finished product is going to be  
24

1 different because there is not going to be distortion, for example, around the  
2 edges or curved surface.

3 JUDGE KIMLIN: Were those known problems in the art, in  
4 terms of lack of registration?

5 MR. BOWERSOX: Yes. They are known problems  
6 particularly when, for instance, you want to put grout lines on tile. You print  
7 a tile pattern, you want those grout lines to line up with the embossing tool  
8 so that they will be depressed right along the grout lines.

9 And it's tremendously difficult to do that with great perfection  
10 because when you are working with these laminates, polymers, hot  
11 temperatures, there is distortion, there is thermal expansion. It's very  
12 difficult to get those print layers lined up with the embossing tools.

13 JUDGE KIMLIN: It would seem that when you have a process  
14 here that has two basic manipulative steps, printing and embossing, that one  
15 skilled in the art would be aware that they could be performed in either  
16 order. You only have two choices, print first or emboss first. And wouldn't  
17 it be prima facie obvious to select either order in the absence of some  
18 unexpected result?

19 MR. BOWERSOX: No, I don't believe so. The prior art wants  
20 to form the product and put the embossments on at the very end because  
21 they want to emboss the protective layer as well. They want to emboss it so  
22 the finished product has a textured surface on it. This is how they have been  
23 doing it for years.

24

1 JUDGE PAK: But Counsel, this is a recognized problem, as  
2 you have said. Why wouldn't one of ordinary skill in the art change the  
3 sequence?

4 MR. BOWERSOX: Because --

5 JUDGE PAK: It's going to cause more expansion. It's going to  
6 cause distortion. So why would not one skilled in the art, in order to change  
7 that existing known problem, would be led to changing the sequence, as you  
8 have indicated in the claim?

9 MR. BOWERSOX: Well, it's very difficult to print on top of  
10 an embossed surface. That's why we use very high resolution digital printers  
11 and ink jet printing technology, so that we can print on top of embossed  
12 surfaces.

13 JUDGE GARRIS: Isn't that exactly what Hansson does?

14 MR. BOWERSOX: No.

15 JUDGE GARRIS: They use digital-controlled mechanisms and  
16 apply ink jet printing. I recognize he first embosses -- he first prints and  
17 then he embosses. But both of those steps are digitally controlled, just as  
18 you've described your steps as being likewise controlled.

19 MR. BOWERSOX: Understood. The embossing, however,  
20 comes in Hansson as one of the ultimate steps of the process. It's one of the  
21 last things they do. They emboss that protective layer to put the textures on.

22 They are not worried about -- what they want to finish up with  
23 in Hansson is a textured surface. Their first two examples, 1 and 2, both  
24



1 discuss using pressing rollers to put features onto the surface of the finished  
2 product.

3 Our method and the products made from it don't do that. We  
4 have -- we can apply a uniform protective layer that is not compromised, it's  
5 not distorted, it's not deformed because it's not embossed. The embossing  
6 comes before the printing and before the application of the protective layer.

7 JUDGE GARRIS: I just want to correct the impression you are  
8 giving that in Hansson there is no disclosure of embossing an intermediate  
9 layer and then applying a protective coating over top because, in fact, in  
10 each and every one of the examples in Hansson, that's exactly what they do.

11 MR. BOWERSOX: In Hansson, for example, the end of  
12 example 1 in Hansson, they say the wear layer is then provided and then  
13 with a surface structure by means of a surface structured roller. This is at  
14 column 13, lines 37 to 38.

15 And this comes after the application of a topcoat, and that  
16 comes after the application of the decor layer.

17 JUDGE GARRIS: Sir, I think the lines you've referred to in  
18 that column are immediately followed by the sentence -- I mean, the lines  
19 you referred to disclose, yes, indeed, that the wear layer was then provided  
20 with a surface structure by means of a surface structured roller. But the very  
21 next sentence says a third layer of the topcoat formulation was then applied.

22 And that third layer is the outermost layer and it's not  
23 embossed. And so, too, are each of the structures made in the other  
24 examples here. It's just to make the point that you keep alluding to the fact

1 that your protective layer is applied on top of the panel after embossment has  
2 occurred and that that same thing does, in fact, happen in the examples of  
3 Hansson.

4 MR. BOWERSOX: Okay. There is a difference between the  
5 top layer and the wear layer. It's the wear layer which is, in my view,  
6 equivalent to our protective layer that is embossed here in Hansson and that's  
7 not embossed according to the claimed invention.

8 JUDGE GARRIS: Well, I can't say I see anything in claim 1  
9 that distinguishes the protective layer you are referring to there from the  
10 topmost layer in Hansson's examples.

11 MR. BOWERSOX: Well, one of the other reasons we wanted  
12 to come to appeal was the basis that Casto fills the missing voids of Hansson  
13 in achieving the claimed invention. And I have a great problem with that.

14 Casto is applying a filler to interstices of a board. It forms  
15 interstices in the board. It then applies a filler across the board and then it  
16 removes all of the filler so that a smooth surface is presented. In Casto, it's  
17 not coincidental that a smooth surface is provided. It's a goal. It's an  
18 objective of Casto, is to provide the smooth surface.

19 Thereafter, they stain. And because the interstices have  
20 different depths, you have different depth of filler filling in those interstices.  
21 They take on different amounts of stain and they give the appearance of  
22 different colors.

23 JUDGE GARRIS: When you say "filler," isn't that true that  
24 Casto describes this filler as including pigment?

1           MR. BOWERSOX: It can be pigmented, yes. But Casto is not  
2 printing. It's not printing whatsoever in any manner. The examiner equates  
3 Casto to printing. It's not printing. Casto is like filling vinyl spackling in  
4 nail holes in the drywall, scraping off the excess. I don't see how that could  
5 be considered printing. And it's, in my view, far short of printing.

6           We have printing -- our dependent claims say printing with a  
7 digital printer, printing with a digital ink jet printer. Casto in no way is  
8 printing. I don't think it fulfills the absence of printing on top of a textured  
9 layer that Hansson is missing.

10          JUDGE GARRIS: Of course the ultimate issue is whether the  
11 teachings of Casto, as urged by the examiner, would have suggested  
12 modifying the sequence of steps that are in Hansson so that you first emboss  
13 in Hansson and then print, just as Casto first embosses and then applies  
14 pigment.

15          MR. BOWERSOX: And then scrapes off the excess filler to  
16 result in a smooth surface which is then stained. And even though they talk  
17 about it could be pigmented, they still talk about staining.

18          And none of this would be necessary if you already had a decor  
19 layer on the bottom like they do in Hansson. And with Hansson, adding  
20 surface rollers to put surface texturing on the product, they are looking for a  
21 textured product. Casto is looking for a smooth product. You would be  
22 defeating the purpose of each if you modified it to have the finish of the  
23 other.

24

1 JUDGE GARRIS: Well, of course the examiner isn't applying  
2 those references in exactly that way. So really the issue is whether -- is how  
3 the examiner expresses the obvious conclusion, and I think that's where our  
4 analysis of the case will have to determine whether, in fact, that obviousness  
5 conclusion is supported by this evidence he's applying.

6 MR. BOWERSOX: Okay. I would also like to mention Casto  
7 dates back to 1928. They didn't have digital printing back then. It's not  
8 printing. They didn't have ink jet printers back then. That's a long time for  
9 Casto to be out there before it's picked up --

10 JUDGE GARRIS: Well, if you care to, argue in favor of  
11 patentability.

12 MR. BOWERSOX: Excuse me?

13 JUDGE GARRIS: I would like you to move to the next  
14 argument you would care to make as to why we should reverse each of the  
15 examiner's four rejections.

16 MR. BOWERSOX: Okay. The examiner also cites that it  
17 would be obvious to emboss and then print in registration with digital means  
18 because of the teachings of Casto. This was a big point of the examiner in  
19 the examiner's brief at page 5, lines 1 to 6.

20 I don't see where that rings true. There is no digital printing,  
21 like I mentioned, in Casto. I don't see why Casto would influence one and  
22 want to motivate one skilled in the art to use digital printing as from 1928.

23 As regards to the other rejections, for instance, the obviousness-  
24 type rejection, I do not believe that a terminal disclaimer is necessary at this

1 time because we think that if this rejection can be overcome based on  
2 Hansson combined with Casto, that the other rejection should fall as well.

3 Certainly our method claims do recite that we apply a textured  
4 surface to a base coating and then we print a pattern onto the textured  
5 surface and then we apply a protective coating onto the printed pattern.  
6 There is no doubt that it's made in that order, according to the method.

7 Claim 1, I understand your position. I don't think reading this  
8 claim that one would imagine that you are printing and then doing the  
9 embossing, because it appears to me that we're starting with a textured  
10 surface.

11 We have a textured surface on the base coating. The base  
12 coating has a textured surface. And then we have one printed pattern located  
13 on the textured surface. Certainly I would like you to consider the method  
14 claim separately from the product claim. It's very clear that the method has  
15 the order that I've discussed.

16 And finally, I would like to point out that the examiner hasn't  
17 pointed to any motivation in these references to make the modifications he  
18 believes would result in the claimed invention. They are separate  
19 inventions.

20 As mentioned before, Casto wants a smooth surface. Hansson  
21 is looking for a textured surface, at least in examples 1 and 2. Casto is from  
22 a different era altogether and has nothing to do with printing. As a result, I  
23 don't see the motivation to combine these two references.

1                   And even if you did, I don't know that what you would result --  
2   would you have a smooth surface? Would you have a textured surface?  
3   They both want different surface finishes in the product.

4                   So by combining them together, as mentioned before, I believe  
5   you would be defeating the purpose of Hansson if you ended up with the  
6   smooth surface of Casto, and vice versa. There is no need to fill in the  
7   cracks or recesses in Hansson because you've already applied a decor layer  
8   underneath.

9                   JUDGE KIMLIN: I guess that should about do it. I think we  
10   understand your position or positions and we will give our full review and  
11   get you out a decision shortly.

12                  MR. BOWERSOX: Thank you all.

13                  JUDGE KIMLIN: Thank you for coming.

14                  (Whereupon, the proceedings at 1:58 p.m. were concluded.)